The
Oregon Approach to
Innovation in Infrastructure

Oregon's Infrastructure Needs

Infrastructure needs over the next 20 years:

- $2.8 billion for drinking water
- $3.8 billion for wastewater
- $2.5 billion for schools
- Address 135 high-hazard dams
- Repair 433 structurally deficient bridges
- Improve 1,341 functionally obsolete bridges
- And More……

Conditions in Washington and California are the same paradigms, just on larger scale.

California

$39 billion for drinking water

$29.9 billion for wastewater

2,978 structurally obsolescent bridges

4,178 functionally obsolescent bridges

Roads in need of repair cost motorists $13.892 billion in repairs and operating costs

68% of California roads are in poor or mediocre condition

Washington

$9.8 billion for drinking water

$5.3 billion for wastewater

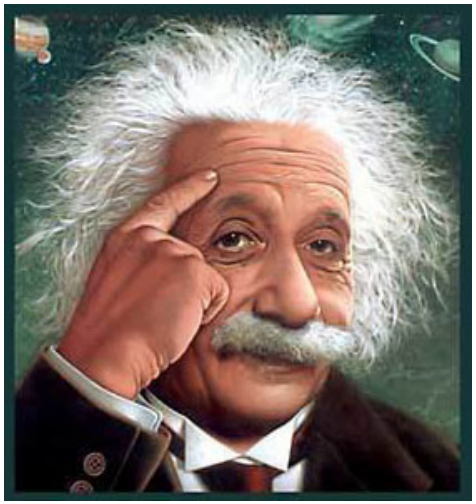
366 structurally obsolescent bridges

1,693 functionally obsolescent bridges

Roads in need of repair cost motorists $1.349 million in repairs and operating costs

67% of Washington roads are in poor or mediocre condition

Einstein was right



Doing the same thing over and over again and expecting different results simply will not work.

Oregon must innovate to deliver the infrastructure we need if we are to preserve our quality of life and have a sound and resilient economy.

The Innovations

Collaboration to establish a best-practices marketplace

The West Coast Infrastructure Exchange

- A market for private capital investment in public infrastructure
- A forum for best practices and interjurisdictional cooperation
- The strength of a regional market

Innovative procurement based on performance outcomes and highest life-cycle value

"Design-Build-Finance-Maintain"

- Transfer risks of design, construction, financing cost, and long-term performance to private partners
- Invite innovation and life-cycle design to reduce total cost of occupancy and increase value for dollars invested

The Innovations

Oregon, Washington, California, and British Columbia are collaborating to implement best practices by creating the Pacific Coast Collaborative and the West Coast Infrastructure Exchange.

Copying Successful Innovation

British Columbia: Procurement Leadership

- British Columbia is a national and global leader in delivering public infrastructure in a way that provides an attractive market for private capital while protecting the taxpayer from cost or schedule overruns.
- Companies of all shapes and sizes are participating in the delivery of major infrastructure projects, which means thousands of jobs are being created.

How Partnerships BC serves taxpayers

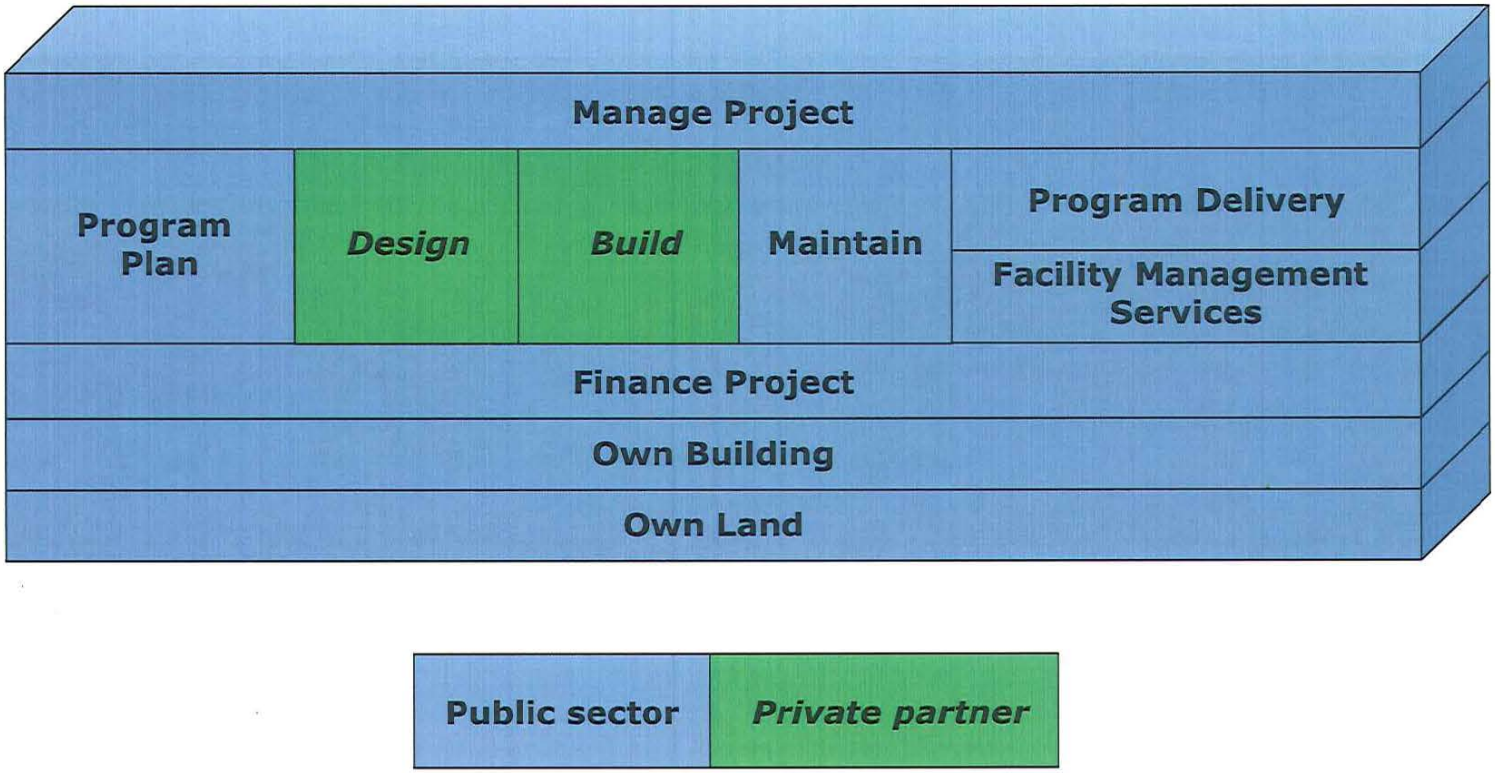
- Partnerships BC serves governments and public sector agencies through the planning, delivery and oversight of major infrastructure projects, such as hospitals, roads, bridges, and courthouses.
- Since 2002, Partnerships BC has participated in more than 35 projects in British Columbia and other jurisdictions with an investment value of approximately $12.5 billion, of which $5 billion is private sector capital.
- **Every project to date has been delivered on time and on budget.**

The Innovations

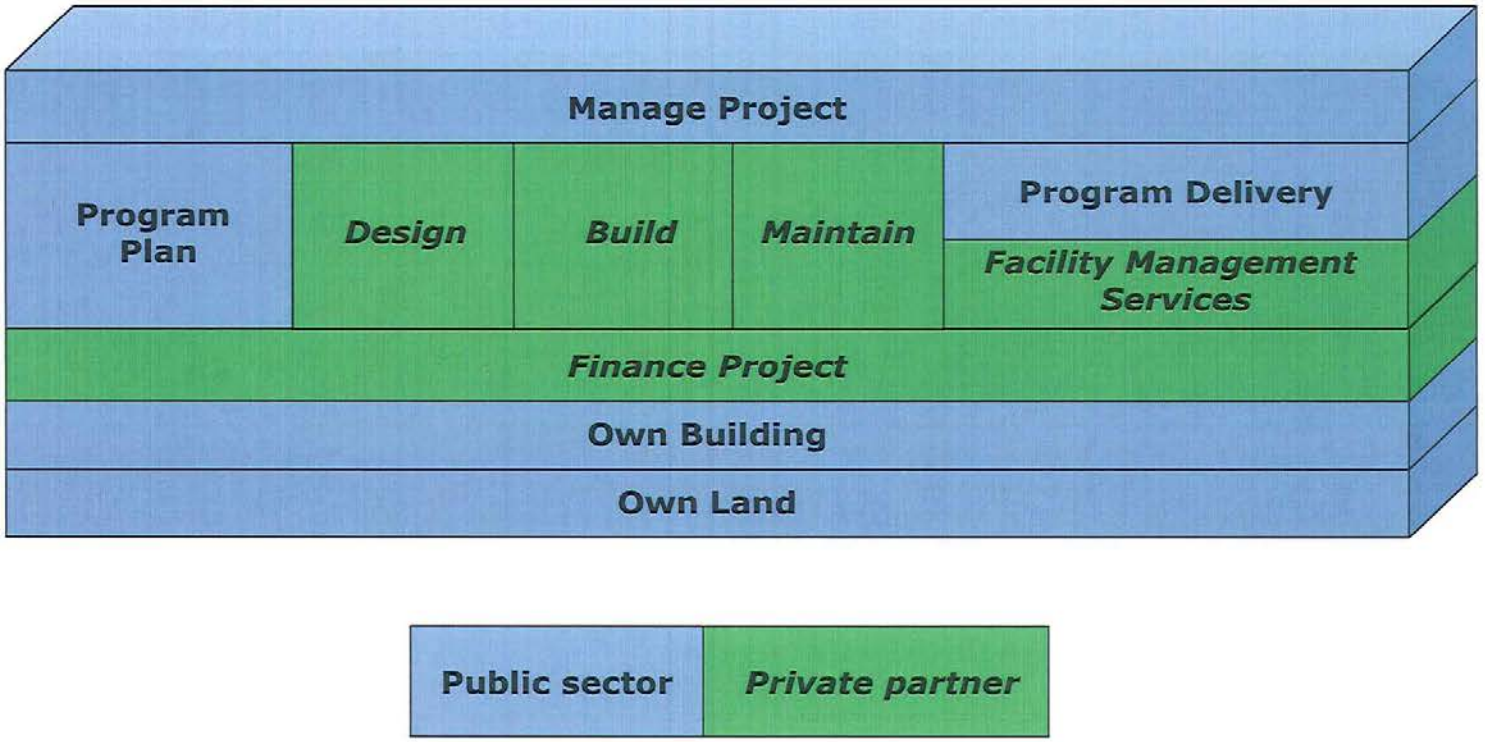
Develop system for Performance-based, life-cycle procurement ("DBFM") in collaboration with Partnerships BC

- Invites private innovation to meet required performance outcomes
- Transfers risk for on-time, on-budget delivery and quality to the private providers
- Assures performance by placing private capital at risk with penalties for non-performance
- Stretches public dollars by leveraging private capital
- Results in higher value for dollars because projects are designed to reduce long-term costs of occupancy, not just to achieve least cost of construction
- Not a transfer of assets or a concession for privatization of services
- Public sector owns infrastructure and delivers the services

Traditional Delivery Model



Partnership Delivery Model



DBFM

partnerships British Columbia

- Public owner transfers risk to private team that provides design, construction, some amount of financing, and long term maintenance through a single integrated contract for payments that are capped and scheduled for entire term of contract.
- Payment deductions apply if performance requirements not met.
- Encourages high quality, allows for highest teamwork and innovation in design and construction.
- Methodology refined by Partnerships BC in British Columbia
  - $12.5 billion in projects in 11 years
  - $5 billion in private capital participation
  - Overall 20% higher value for money

Example of outcomes
Surrey Pretrial Services Centre Expansion

- 216-bed expansion of high-security inmate facility
- Renovation and upgrade to improve supervision, food service, program delivery and safety of staff and inmates
- Provides maintenance for new and existing facility, to return entire facility in fully-maintained condition at end of life-cycle contract
- $148 million in traditional procurement, $133 million cost in DBFM
- Significant safety improvements because of private innovation
- As all DBFM projects, delivered on-time and on-budget

Example

Sea-to-Sky Highway

- $600 million improvement of Highway between Vancouver and Whistler Ski Area
- Ministry could afford 60 km of passing lanes, 20 km of median barrier, and reflective markings for only most dangerous areas.
- With DBFM innovation, project delivered 80 km of passing lanes, 36 km of median barrier, and reflective safety material for the entire length
- Private innovation added $100 million in additional value
- Highway will result in 6,000 new permanent jobs because of improved economic activity in area served.

Oregon Innovation—Small project bundling

Project need: Lower-cost alternative methods for municipal wastewater systems

Small rural communities have failing wastewater systems

- Residential users on septic systems
- Municipal treatment systems outdated or inadequate

Overcomes obstacles to using lower-cost decentralized systems

- Decentralized systems require regular, technical maintenance
- Capacity to perform is unpredictable for understaffed rural communities
- Regulators need assurances of long-term performance to issue permit
- Cost and risk of design, performance modeling, regulatory advocacy too great for individual communities when approval is uncertain

Cost of traditional fully-engineered wastewater treatment plant is prohibitive for small communities, resulting in an impasse

Oregon Innovation

- Project need: Make savings from LED streetlight conversions available to small communities

LED conversion will save Portland over $2 million in energy costs after debt service.

While savings will be less for smaller communities, they could still be meaningful if the communities can take advantage of economies of scale.

Oregon has 11 counties that are struggling to provide basic services—every cost saving is important to our citizens.

Project Obstacles

Cost and complexity of

- civil engineering,
- testing,
- evaluating savings,
- budgeting and implementing financing, and
- procuring labor for installation and maintenance are infeasible for small communities

Small procurement volume in each community makes energy savings negligible compared to project cost without shared economies of scale

“Bundling” solution

“Bundling” solution is to

- establish statewide collaborative purchasing agreement for units to share volume pricing;
- create project template for civil engineering and testing protocols;
- negotiate template financing agreements;
- Regionalize installation and maintenance providers’ agreements

The Oregon Plan

- Develop skills and capacity to deliver innovative infrastructure projects reliably and consistently.
- Identify opportunities to allow all Oregon communities to benefit from sophisticated project delivery by combining “bundles” of like-type projects when higher value can be obtained for the public dollars, and when innovation can solve intractable problems.
- Use best practices in a West Coast regional marketplace to obtain the highest value for infrastructure investments and leverage private capital.